

Supplementary Table 1. Terms selected for the construction of the search filters divided by category.

MeSH terms defining the “core terms”
air pollutants [MH]; air pollution [MH]; disorders of environmental origin [MH]; environmental exposure [MH]; particulate matter [MH]
Other MeSH terms and combinations with non-MeSH terms
air pollutants [Pharmacological Action]; air pollutants/adverse effects [MH] NOT air pollutants [PA]; aromatic hydrocarbons [MH] AND air pollut*; benzene derivatives [MH] AND air pollut*; carbon monoxide [MH] AND air pollut*; dioxins [MH] AND air pollut*; dust [MH]; environmental health [MH]; environmental medicine [MH]; environmental pollutants [MH]; environmental pollution [MH]; fires [MH]; fossil fuels [MH]; gasoline [MH]; hydrogen sulfide [MH] AND air pollut*; motor vehicles [MH]; nitrogen oxides [MH] AND air pollut*; ozone [MH]; sulfur dioxide [MH]; vehicle emissions [MH]
Non-MeSH terms
air contamin*; air pollutant* NOT air pollutants [MH]; "air pollution" AND exposure; "air pollution" AND "health effects"; "air pollution" NOT air pollution [MH]; "air quality"; atmospheric contamin*; atmospheric pollut*; automobile* AND air pollut*; "diesel exhaust" NOT vehicle emissions [MH]; (dust OR dusts) NOT dust [MH]; emission* AND air pollut*; environmental contamin*; environmental disease*; environmental exposure* NOT environmental exposure [MH]; ("environmental health" NOT environmental health [MH]) AND air pollut*; ("environmental medicine" NOT environmental medicine [MH]) AND air pollut*; (environmental pollutant* NOT environmental pollutants [MH]) AND air pollut*; "environmental pollution" NOT environmental pollution [MH]; environmental toxicant*; "environmental toxicology"; exhaust part*; (fossil fuel* NOT fossil fuels [MH]) AND air pollut*; "fossil fuels" AND exposure; gaseous pollut*; (gasoline NOT gasoline [MH]) AND air pollut*; incinerator* AND air pollut*; industr* AND air pollut*; industrial pollut* OR industry pollut*; lead AND air pollut*; (metal OR metals) AND air pollut*; (motor vehicle* NOT motor vehicles [MH]) AND air pollut*; (motorway* OR roadway* OR highway* OR freeway*) AND air pollut*; (Nox NOT nitrogen oxides [MH]) AND air pollut*; (ozone NOT ozone [MH]) AND air pollut*; ozone AND exposure; PAH NOT PAH [AU] NOT "pulmonary arterial hypertension"; particle* AND air pollut*; particulate*; "particulate matter" AND exposure; persistent organic pollut*; "PM2,5" OR "PM 2,5" OR "PM2.5" OR "PM 2.5"; "PM 10" OR PM10; pollut*; "polycyclic aromatic hydrocarbon"; POPS; road* AND air pollut*; smog NOT ("particulate matter" OR particulate matter [MH]); traffic AND air pollut*; ultrafine particle*; urban AND air

pollut*; vehicle emission* NOT vehicle emissions [MH]; VOCS; "Volatile Organic Compounds"

AU, Author; MH, Medical Subject Heading; the asterisk (*) represents the PubMed truncation symbol.

Supplementary Table 2. Numbers of abstracts identified by the MeSH terms, overlaps between the “core terms” and the other twenty MeSH terms and estimates of the proportion of abstracts potentially pertinent to exposure to outdoor air pollution.

PubMed Query	Absolute number of abstracts retrieved ^a	Proportion of the abstracts retrieved by the search term which was not retrieved by the “core terms” ^b	Estimated proportion of potentially pertinent abstracts ^c
	n	%	%
“Core terms”			
air pollutants [MH]	25,277	-	31
air pollution [MH]	18,332	-	40
disorders of environmental origin [MH]	1,276	-	13
environmental exposure [MH]	88,063	-	21
particulate matter [MH]	19,689	-	43
Other MeSH terms			
air pollutants [PA]	29,075	20	13
air pollutants/adverse effects [MH] NOT air pollutants [PA]	3,151	0	47
aromatic hydrocarbons [MH] AND air pollut*	5,688	25	12
benzene derivatives [MH] AND air pollut*	3,960	31	14
carbon monoxide [MH] AND air pollut*	1,081	8	12
dioxins [MH] AND air pollut*	1,237	29	3
dust [MH]	8,138	0	37

environmental health [MH]	6,288	73	12
environmental medicine [MH]	161	68	3
environmental pollutants [MH]	77,654	46	17
environmental pollution [MH]	166,416	40	22
fires [MH]	2,967	76	9
fossil fuels [MH]	8,315	58	21
gasoline [MH]	1,611	57	9
hydrogen sulfide [MH] AND air pollut*	1,653	68	5
motor vehicles [MH]	6,973	82	11
nitrogen oxides [MH] AND air pollut*	2,642	8	30
ozone [MH]	5,647	58	27
sulfur dioxide [MH]	2,001	26	27
vehicle emissions [MH]	3,599	18	26

MH, Medical Subject Heading; PA, Pharmacological Action. Searches run on October 23, 2015.

^aFilters for date (31/12/2010) and abstract availability and limited by the mini filter *NOT (animals [MH] NOT humans [MH])*.

^bCalculated as: [(total number identified by the search terms) – (number also identified by the core terms)] / (total number identified by the search terms).

^cEstimates were based on reviews of systematically recruited sampled abstracts.

Supplementary Table 3. Numbers of abstracts identified by the non-MeSH terms, overlaps between the “core terms” and non-MeSH terms and estimates of the proportion of abstracts potentially pertinent to exposure to outdoor air pollution.

PubMed Query	Absolute number of abstracts retrieved ^a	Proportion of the abstracts retrieved by the search term which was not retrieved by the “core terms” ^b	Estimated proportion of potentially pertinent abstracts ^c
	n	%	%
air contamin*	481	25	5
air pollutant* NOT air pollutants [MH]	11,921	53	21
"air pollution" AND exposure	8,068	5	41
"air pollution" AND "health effects"	1,539	6	43
"air pollution" NOT air pollution [MH]	4,277	36	34
"air quality"	3,868	15	23
atmospheric contamin*	118	29	16
atmospheric pollut*	860	31	27
automobile* AND air pollut*	917	19	7
"diesel exhaust" NOT vehicle emissions [MH]	304	46	43
(dust OR dusts) NOT dust [MH]	10,654	68	18
emission* AND air pollut*	9,073	11	11
environmental contamin*	2,726	68	23
environmental disease*	240	60	18

environmental exposure* NOT environmental exposure [MH]	2,643	92	37
("environmental health" NOT environmental health [MH]) AND air pollut*	2,127	9	29
("environmental medicine" NOT environmental medicine [MH]) AND air pollut*	742	8	21
(environmental pollutant* NOT environmental pollutants [MH]) AND air pollut*	8,740	54	5
"environmental pollution" NOT environmental pollution [MH]	983	92	17
environmental toxicant*	520	69	66
"environmental toxicology"	2,142	79	18
exhaust part*	474	44	55
(fossil fuel* NOT fossil fuels [MH]) AND air pollut*	234	14	41
"fossil fuels" AND exposure	237	15	59
gaseous pollut*	302	20	48
(gasoline NOT gasoline [MH]) AND air pollut*	540	20	6
incinerator* AND air pollut*	755	9	7
industr* AND air pollut*	7,737	9	23
industrial pollut* OR industry pollut*	395	53	30
lead AND air pollut*	3,157	13	31
(metal OR metals) AND air pollut*	7,181	12	21

(motor vehicle* NOT motor vehicles [MH]) AND air pollut*	407	14	43
(motorway* OR roadway* OR highway* OR freeway*) AND air pollut*	586	14	43
(Nox NOT nitrogen oxides [MH]) AND air pollut*	359	13	19
(ozone NOT ozone [MH]) AND air pollut*	954	18	29
ozone AND exposure	2,805	47	33
PAH NOT PAH [AU] NOT "pulmonary arterial hypertension"	6,042	69	7
particle* AND air pollut*	8,413	7	30
particulate*	20,081	53	15
"particulate matter" AND exposure	2,691	7	53
persistent organic pollut*	946	46	7
"PM2,5" OR "PM 2,5" OR "PM2.5" OR "PM 2.5"	2,137	6	40
"PM 10" OR "PM10"	2,345	11	32
pollut*	117,031	49	15
"polycyclic aromatic hydrocarbon"	1,537	72	13
POPS	900	59	14
road* AND air pollut*	2,306	13	16
smog NOT ("particulate matter" OR particulate matter [MH])	375	69	6
traffic AND air pollut*	2,345	10	29
ultrafine particle*	502	26	48

urban AND air pollut*	5,478	8	26
vehicle emission* NOT vehicle emissions [MH]	117	33	17
VOCS	1,715	44	12
"Volatile Organic Compounds"	3,255	51	1

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^aFilters for date (31/12/2010) and abstract availability and limited by the mini filter *NOT (animals [MH] NOT humans [MH])*.

^bCalculated as: [(total number identified by the search terms) – (number also identified by the core terms)] / (total number identified by the search terms).

^cEstimates were based on reviews of systematically recruited sampled abstracts.

Supplementary Table 4. List of systematic reviews with a medium/high score (i.e. 20 or more out of a maximum score of 44) assessed using the R-AMSTAR checklist for quality assessment for Systematic Reviews for which we were able to reproduce the original PubMed search strategy.

Author	Topic	R-AMSTAR quality score
1) Shah et al 2015 [21]	Short term association between air pollution and stroke	35
2) Jaacks and Staimez 2015 [22]	Association of persistent organic pollutants and non-persistent pesticides with diabetes and diabetes-related health outcomes	22
3) Liu et al 2015 [23]	Physical health impacts of wildfire smoke on exposed communities	22
4) Song et al 2014 [24]	Effects of outdoor air pollution on chronic obstructive pulmonary disease	27
5) Li et al 2014 [25]	Associations between main air pollutants and diabetes-associated mortality	33
6) Wang et al 2014 [26]	Effect of long-term exposure to air pollution on type 2 diabetes risk	33